Breast Masses: A Case-Based Approach

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Breast MRI is used increasingly as an adjunct for mammography and ultrasound. The high sensitivity for the detection of cancer allows this technique to be used as a problem solving tool when conventional imaging and biopsy has resulted in some discrepancy in the findings. The high negative predictive value means that MRI can be used to exclude malignant disease. The indications for MRI are as a problem solving tool, investigating suspected recurrent disease following conventional workup, pre-operative staging of the breast in women with dense breasts or with suspected multifocal disease or lobular cancer and screening women at very high risk of developing cancer.

The technique will be discussed in order to maximise the diagnostic potential of this examination. The importance of high resolution imaging in order to extract morphological information will be highlighted. Rapid dynamic contrast enhancement allows interrogation of enhancement patterns and curve types. The use of additional techniques such as diffusion weighted imaging and spectroscopy will be demonstrated. Typical features of invasive ductal and lobular cancers and DCIS will be illustrated. Cancers found in high risk screening programmes will also be discussed to demonstrate the differences found from sporadic disease and to highlight features found in previous screening rounds to aid earlier diagnosis.

A pragmatic approach to diagnosis of lesions found on MRI will be recommended together with advice on when to biopsy or when to follow up and when to ignore lesions.

References

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3. Tilanus-Linthorst MM, Obdeijn IM, Hop WC, et al. BRCA1 mutation and young age predict fast breast cancer growth in the Dutch, United Kingdom, and Canadian magnetic resonance imaging screening trials. Clin Cancer Res 2007; 13:7357-7362.